Recombinant DNA technology vocab sorting 2 – probes and fingerprinting

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| DNA probe | A short, labelled, single stranded length of DNA. |
| 32P isotope | Used to radioactively label DNA probes. |
| Fluorescently labelled probes | These emit light when the probe has bound to the target DNA. |
| DNA hybridisation | Occurs when the probe binds to the complementary base sequence on the target DNA. |
| Heating DNA | This separates it into two strands. |
| Annealing | When cooled, the probes are able to bind to the target DNA. |

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| DNA sequencing | This technique is used to determine the order of bases in our target DNA. |
| PCR | This method is used to make multiple copies of a DNA probe. |
| Gene mutation | Can cause genetic disorders such as sickle cell anaemia. |
| Array | Many different DNA probes can be fixed in a pattern on a glass slide to test simultaneously for many genetic disorders. |
| Oncogenes | These mutated genes can be detected by genetic screening and give individuals an idea of their risk of developing cancer. |
| Personalised medicine | Doctors can provide advice and health care based on an individual’s genotype. |
| Genetic counsellor | Would be able to advise couples with a family history of genetic disorders on the likelihood it could be passed to their children. |
| VNTRs | Short, non-coding, repetitive DNA sequences. |
| Gel electrophoresis | Separates DNA fragments on the basis of their size. |
| X-ray film | Can be used to show the position of radioactively labelled DNA fragments on a gel. |
| Restriction endonucleases | Used to cut DNA before electrophoresis. |